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## **FCC Eases Rules For Fixed Point-to-Point Microwave Operations**

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Important new changes to the FCC's rules for fixed point-to-point microwave systems will give operators greater flexibility and allow faster initiation of service.

Microwave radio is key to the nation's economy and safety. Operating through the sideways-facing dishes and domes that dot radio towers, water towers, and tall buildings, these systems regulate the movement of railroad trains, control the electric grid and natural gas and oil pipelines, carry long-distance telephone calls and Internet traffic, transport TV programming to cable systems, send 911 messages to the local police station, deliver cell phone calls to the towers, tell the ATM your bank balance, and carry vast amounts of data that fuel ordinary businesses nationwide.

### ***Conditional Authorization***

To obtain a microwave license is time-consuming. The applicant must: (1) design the system; (2) go through frequency coordination, which limits harmful interference to and from the system; (3) file an application with the FCC; and (4) wait for the FCC to issue the license.

But there is a shortcut. Under a procedure called "conditional authorization", the applicant can flip the ON switch after step (3). The system can thus provide service while the application wends its way through FCC processing, conditioned (hence the name) on having to shut off if the application is turned down. That rarely happens.

Demands for service can arise quickly, while the FCC sometimes moves slowly. This makes conditional authorization an important tool for microwave service providers.

### ***Rule Changes***

The Fixed Wireless Communications Coalition (FWCC) asked for two improvements in the rules, which the FCC has now granted. These concern the 6 GHz and 23 GHz fixed service bands.

The 6 GHz band is the long-haul workhorse of fixed microwave. Low frequencies travel farther; and in much of the country, 6 GHz is the lowest available. For links that must span tens of miles or more, 6 GHz is often the only choice.

The band has two segments, called the “Lower 6” and the “Upper 6”, which differ in two important ways. The Lower 6, shared with over 4,000 C-band satellite uplink earth stations, tends to be more congested than the Upper 6, which has no earth stations. On the other hand, the Lower 6 allows microwave channels up to 30 MHz wide, while the Upper 6 maximum was only 10 MHz. An operator who needed 30 MHz of bandwidth, but could not find room in the Lower 6, was not entirely out of luck. It could ask the FCC for a waiver to use 30 MHz in the Upper 6. The FCC has issued about a thousand of these. But an application that needs a waiver does not qualify for conditional authorization, and so the system cannot be turned on until after several weeks of FCC processing, even if the risk of interference is nil.

At the FWCC’s request, the FCC has now amended its rules to add 30 MHz authorization to the Upper 6. That eliminates the need for 30 MHz waivers, and thus allows operators to use conditional authorizations, so they can commence service much more quickly.

The FWCC also had a request concerning the 23 GHz band. Suitable for shorter distances, this band is ideal for transporting cell phone and mobile Internet signals to and from cell towers. The catch here is the federal government, which shares the band. On the one hand, the government long ago set aside four channels in the band for conditional authorization. On the other hand, those channels are everyone’s first choice; they tend to be crowded, and are not available everywhere. An applicant for any other channel does not qualify for conditional authorization, and so cannot operate until the FCC grants the license. In addition to the usual FCC processing, a non-conditional 23 GHz application requires government sign-off, which further delays the grant.

The industry was pleased back in 2007 when the government freed up two additional channels for conditional authorization. But they were of no immediate benefit. Because the conditional- authorization channels are listed in the FCC rules, adding two more requires a full-scale rulemaking proceeding. The FWCC formally requested that change in November 2007. A year ago, the FCC granted a waiver pending the rulemaking, which made the two additional channels available for conditional authorization. The FCC has now codified the change by formally adding the additional channels to the rules.